CLAIMS

We claim:

1. A method of encoding video content, the method comprising:

segmenting the video content into video content portions;

assigning a predefined model to each video content portion; and

routing each video content portion to one of a plurality of encoders based on the model associated with each video content portion.

2. The method of claim 1, wherein the video content portions are video segments.

3. The method of claim 1, wherein the video content portions are video subsegments.

4. The method of claim 1, wherein the video content portions are video regions of interest.

5. The method of claim 1, wherein the plurality of encoders includes a generic model encoder.

6. The method of claim 5, wherein the predefined model assigned to each video content portion is chosen from a plurality of predefined video content models.

7. The method of claim 6, wherein one of the plurality of predefined video content models includes a generic video content model.

8. The method of claim 7, wherein assigning a predefined model to each video content portion further comprises assigning the generic video content model to a video content portion if none of the other models from the plurality of predefined video content models is assigned to the video content portion.

9. A method of encoding video content, the method comprising:

extracting video portions from video content;

identifying video subsegments and regions of interest within the video portions;

assigning a predefined model to each video portion according to a characteristic of the video portion, the predefined model being chosen from a plurality of predefined models or a generic model;

encoding video portions associated with the generic model with a generic encoder; and

encoding video portions associated with the plurality of predefined models with a encoder chosen from a plurality of encoders, each of the plurality of encoders being associated with one of the plurality of predefined models.

10. The method of claim 9, further comprising:

producing descriptors associated with the video portions of the video content; and

producing descriptors associated with the video subsegments and regions of interest.

11. The method of claim 10, further comprising:

encoding the descriptors associated with the video portions, video subsegments and regions of interest.

12. The method of claim 11, wherein the descriptors associated with the video portions, subsegments and regions of interest are used to determine whether a generic encoder or an encoder from the plurality of encoders was used to encode the video content portions.

13. A method of encoding video content, the method comprising:

segmenting the video content into video content portions;

if a video content portion relates to one of a plurality of predefined models, assigning the video content portion to a related, predefined model chosen from the plurality of predefined models;

if a video content portion does not relate to one of the plurality of predefined models, assigning the video content portion to a generic model;

encoding the video content portions associated with the generic model using a generic encoder; and

encoding the video content portions associated with one of the predefined models with an encoder from a plurality of encoders.

14. The method of claim 13, wherein each encoder from the plurality of encoders is associated with one of the predefined models of the plurality of predefined models.

15. A method of encoding video content divided into a plurality of portions, each portion being associated with either a generic model or a model chosen from a plurality of predefined models, the method comprising:

routing each portion associated with the generic model to a generic encoder; and

routing each portion associated with a model of the plurality of predefined models to an encoder associated with the chosen model.

16. The method of claim 15, wherein each encoder from the plurality of encoders is optimized for each predefined model of the plurality of models.

17. The method of claim 15, further comprising, before routing each portion to either a generic encoder or an encoder from the plurality of predefined encoders:

producing descriptors associated with the content of each portion;

using the descriptors to determine whether a generic model is associated with each portion.

18. A method of producing a bitstream coded according to video content, the method comprising:

extracting a plurality of portions from the video content;

associating each portion of the plurality of portions to either a generic model or a predefined model chosen from a plurality of predefined models;

routing each portion associated with a generic model to a generic encoder; and

routing each portion associated with a model of the plurality of predefined models to one of a plurality of encoders, wherein each encoder of the plurality of encoders is associated with one of the predefined models.

19. The method of claim 18, further comprising:

multiplexing each portion and transmitting each portion in a bitstream.

20. The method of claim 18, further comprising:

locating subsegments and regions of interest in the extracted portions.

21. A method of encoding a bitstream using a plurality of encoders, the method comprising:

extracting segments from video content;

mapping each extracted segment to a predefined model; and

routing the extracted and mapped segments to one of the plurality of encoders based on the mapped segments.

22. The method of encoding of claim 21, further comprising:

after extracting the segments from the video content, locating subsegments and regions of interest in the extracted segments.

23. A method of extracting segments from video content, the method comprising:

automatically extracting characteristics of the video content to produce a plurality of characteristic outputs;

inputting the video content into a manual extracting unit;

analyzing the characteristic outputs and producing an analyzed signal that is input into the manual extracting unit; and

manually determining extracted segments using the manual extracting unit, wherein the analyzed signal is optionally used in manually determining the extracted segments.

24. The method of claim 23, the method further comprising:

choosing extracted segments from either the manually extracted unit or the analyzed signal via a switch.

25. A method of extracting segments from video content, the method comprising:

automatically extracting segments from the video content to produce an automatically generated signal associated with the extracted segments;

manually extracting segments from the video content to produce a manually generated signal associated with the extracted segments; and

choosing either the manually generated signal or the automatically generated signal via a switch.

26. The method of extracting segments from video content of claim 25, wherein manually extracting segments from the video content further comprises using the automatically extracted segments.

27. A coded bitstream having portions of the bitstream encoded using different encoders according to models associated with the subject matter of each portion of the bitstream, the coded bitstream encoded according to the method of claim 1.

28. A coded bitstream having portions of the bitstream encoded using different encoders according to models associated with the subject matter of each

portion of the bitstream, the coded bitstream encoded according to the method of claim 18.

29. A coded bitstream having portions of the bitstream encoded using different encoders according to models associated with the subject matter of each portion of the bitstream, the coded bitstream encoded according to the method of claim 21.

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